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Application No. 10/600,524
Amendment dated August 28, 2006
Reply to Office Action of June 28, 2006

Docket No.: 0941-0759P

AMENDMENTS TO THE CLAIMS

1. (Previously Presented) An ESD protection device comprising:

a substrate;

an isolation region on the substrate, enclosing an active region;

a first gate having two ends overlapping the isolation region to stretch over the active region, and coupled to a first node;

a second gate disposed on a first side of the first gate and near the first end of the first gate; and

first and second doping regions at the first and second sides of the first gate, and coupled to a second and the first node respectively, wherein the first doping region has a first discontinuity region, without source/drain implantation, in the substrate under the second gate.
2. (Original) The ESD protection device as claimed in claim 1, wherein the isolation region is a shallow trench isolation.
3. (Original) The ESD protection device as claimed in claim 1, wherein the first node is ground while the second node is a pad.
4. (Previously Presented) The ESD protection device as claimed in claim 1 further comprising:

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a third gate disposed at the first side of the first gate and near the second end of the first gate, wherein the first doping region has a second discontinuity region, without source/drain implantation, in the substrate under the third gate.

5. (Previously Presented) The ESD protection device as claimed in claim 4 further comprising:

a fourth gate having a first and second end overlapping the isolation region to stretch over the active region, and coupled to the first node, wherein the first doping region is between the first and fourth gate;

a fifth and sixth gate both disposed at a first side of the fourth gate, and respectively near a first and second end of the fourth gate, wherein the first doping region has a third and fourth discontinuity region, without source/drain implantation, respectively in the substrate under the fifth and sixth gate; and

a third doping region on a second side of the fourth gate and coupled to the second node.

6. (Original) The ESD protection device as claimed in claim 5, wherein each of the second, third, fifth and sixth gate has one end overlapping the isolation region.

7. (Original) The ESD protection device as claimed in claim 5, wherein each of the first, second, third, fourth, fifth and sixth gate comprises:

a conducting layer;

a gate oxide layer under the conducting layer; and

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a first and second spacer respectively adjacent to two sides of the conducting layer and gate oxide layer.

8. (Original) The ESD protection device as claimed in claim 7, wherein the conducting layer is a polysilicon layer while the gate oxide layer, and the first and second spacer are silicon oxide layers.

9. (Original) The ESD protection device as claimed in claim 1 further comprising a fourth doping region enclosing the isolation region.

10. (Original) The ESD protection device as claimed in claim 9, wherein the substrate is a P substrate, the first, second and third doping region are N doping regions, and the fourth doping region is a P doping region.

11-104. (Cancelled)